APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/972,155	10/09/2001	John Boyer	12-74 US	4939

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EXAMINER
PAIK, STEVE S

ART UNIT	PAPER NUMBER
2876	

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.		Applicant(s)
Office Action Summary	09/972,155		BOYER ET AL.
	Examiner		Art Unit
	Steven S. Paik		2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _23 December 2002_ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-19_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-19_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 October 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _2_ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Amendment

1.   Receipt is acknowledged of the Amendment filed December 23, 2002.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived
> by the manner in which the invention was made.

3.   Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's

admitted prior art (hereinafter, AAPA) in view of IBM Technical Disclosure Bulletin, October

1978, US (APL with Extended Workforce, October 1978, hereinafter IBM).

        Re claims 1, 3-5, 8, 10-12, 15-17 and 18, AAPA discloses a method and apparatus for

encoding information using an encoding standard, known as PKCS15 dictates how software keys

and certificates are represented in terms of smart card files and directories (2nd paragraph on page

1). The PKCS15 compatible format for a smart card contains an Object Directory File. This file

contains pointers to other directory files. A Certificate Directory File (CDF) is regarded as a

directory of certificates known to the PKCS15 application and at least one CDF must be present

on a smart card. The CDF contains certificates or references to certificates. A Data Object

Directory (DODF) must be present on a smart card containing data objects (2nd paragraph on

page 2 and see Fig. 1). AAPA further discloses a start and an end address, pointer, and a data

object within a directory file

AAPA, however, fails to disclose the steps of storing the data object in at least a last available memory location within the directory file, the last available memory location nearer the start address of the directory file than earlier stored data object and storing pointer data in least a first available memory location most proximate the start address and between the start address and the end address.

IBM discloses a technique for storing objects in a unit of storage called workspace (i.e. magnetic disk or memory) at two sets of sequential addresses, one sequence beginning at the low address (start address) and one sequence beginning at the high address (end address). This creates a contiguous block of memory at the beginning of start address of memory location, a contiguous block of memory at the end address of memory location, and an unused signal block of memory in the middle. Pointers identify the next available storage location at the ends of the sequences, and thus define a free space in the middle of the workspace (see page 1, Disclosure Text). This technique provides a user to achieve highly efficient usage of the storage unit. Thus, resulting in saving cost of storage device such as magnetic disk, hard disk, non-volatile memory or the like.

In view of IBM teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further employ a technique to maximize the capacity of a storage device in addition to the PKCS15 compatible format of AAPA due to the fact that more data objects can be stored on the storage medium for the purposes of saving the cost of a storage device and maximizing its capacity. Furthermore, such modification of employing a technique of storing objects at two sets of sequential addresses, one from the top and the other from the bottom, and creating one single block of unused memory in the middle, to the teachings of

AAPA would have been an obvious matter of design variation, well within the ordinary skill in the art, and therefore an obvious expedient.

Regarding claims 2, 9 and 19, AAPA discloses the method and apparatus as recited in rejected claims 1, 8 and 15 stated above, where data stored within the smart card according to the preceding steps is retrievable in accordance with PKCS15 standard (AAPA discloses an encoding technique using the PKCS15 compatible format for a smart card.

Regarding claims 6 and 13, AAPA discloses the method and apparatus as recited in rejected claims 1 and 8 stated above respectively, where the memory start address (22 in Fig. 1 of AAPA) is lower than the memory end address (24).

Regarding claims 7 and 14, AAPA discloses the method and apparatus as recited in rejected claims 1 and 8 stated above respectively, where the memory start address (see page 1, Disclosure Text) is higher than the memory end address and wherein a forward direction in memory is from higher address values toward lower address values. As IBM discloses, the units of storage called workspace can be a magnetic disk, which retrieves objects according to its address location. An object in a directory file may be retrieved in results of locating and reading the appropriate address. It is well known that a program can be set up with a particular reading direction of memory. For example, one can read from address 0000 to FFFF or vice versa according to design and programming specifications.

Response to Arguments

4.   Applicant's arguments filed December 23, 2002 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the applicant argues that claims in the present applicant are very different from the cited reference on page 2 of the Remarks. The examiner respectfully disagrees. It appears, the cited references are not very different from the claimed invention. Rather they show, teach or fairly suggest motivation to combine to read on the claimed features. For example, the applicant acknowledges the IBM TDB is intended for memory caching which is inferred from the use of an auxiliary storage device. It is well known that an auxiliary storage device can be a magnetic disk, a hard disk, and a smart card and the likes. In particular, a smart card may comprise a data storage device in the form of a magnetic stripe, an optical storage, or an IC chip embedded in the card. Therefore, the teachings of IBM TBD can obviously be applied or inferred to an efficient management of non-volatile memory block for the purpose of saving a high cost of a storage device and maximizing available memory spaces within the storage device. Accordingly, the rejection under 35 U.S.C. § 103 (a) for the claims 1-19 is maintained.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Steven S. Paik whose telephone number is 703-308-6190. The

examiner can normally be reached on Mon - Fri (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Michael G. Lee can be reached on 703-305-3503. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-308-7722 for regular

communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-308-0530.

Steven Paik
    Steven S. Paik
    Examiner
    Art Unit 2876

ssp
February 27, 2003

MICHAEL G. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800